



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

JUL 27 1987

SUBJECT: EPA Registration No. 524-376
Landmaster II

FROM: Deloris F. Graham
Technical Support Section
Fungicide-Herbicide Branch
Registration Division (TS-767C)

TO: Robert J. Taylor, PM 25
Fungicide-Herbicide Branch
Registration Division (TS-767C)

E 7/31/87

APPLICANT: Monsanto Company
1101 17th Street NW.
Washington, DC 20036

ACTIVE INGREDIENTS:

2,4-Dichlorophenoxyacetic acid	
Isopropylamine Salt	11.1%
Glyphosate	13.3%
INERT INGREDIENTS:	75.6%

BACKGROUND:

Submitted Acute Inhalation and Dermal Sensitization Studies to support conditional registration of this product. Studies conducted by Monsanto Company and Bio/dynamics, Inc. Data under EPA MRID Nos. 400855-01 and 401069-01. Method of support not indicated.

RECOMMENDATIONS:

FHB/TSS finds these studies acceptable to support conditional registration of this product.

LABEL:

In regard to acute inhalation hazard the statement "Harmful if inhaled. If inhaled remove victim to fresh air" must be included in precautionary statements.

In regard to dermal sensitization, no precautionary labeling required.

REVIEW:

- (1) Acute Inhalation Toxicity Study: Monsanto Company; Study No. EHL No. 86125; December 12, 1986; EPA MRID No. 400855-01.

PROCEDURE:

Three groups consisting of five male and five female Sprague-Dawley rats each were exposed for 4 hours to one of the following mean analytical concentrations of test material: 3.2, 4.1, or 4.8 mg/L. Mass median aerodynamic diameter for all exposures was reported to be 2.73 to 2.88 microns and geometric standard deviation 1.77 to 1.82. Mean chamber temperature and relative humidity for all exposures ranged from 24.9 to 25.0 °C and 78 to 94 percent, respectively. Observations made for 14 days postexposure. Necropsy performed on all animals.

RESULTS:

At 32 mg/L, 3/5 M died; at 4.1 mg/L, 3/5 M and 2/5 F died; at 4.8 mg/L, 5/5 M and 4/5 F died. Toxic signs reported include dehydration, hypoactivity, labored respiration, gasping, rapid respiration, sneezing, high-pitched sound, rattling sounds, red/pink nasal discharge; red/brown perinasal encrustation, perioral wetness, bloodlike oral discharge, red ocular discharge; ocular opacity, periocular wetness, diffuse conjunctive redness, periocular encrustation, focal loss of hair, general loss of hair, urine-stained hair. The necropsy report revealed cecum - gaseous distention; eye - porphyria, focal corneal opacity; kidney - focus, dilated pelvis; lung - congested, red, focus; nose/turbinates - porphyria; skin - alopecia; G.I. tract - gas distended. LD₅₀ for males reported to be 3.1 mg/L (with 95% confidence limits between 0.0 and 4.1 mg/L). LD₅₀ for females reported to be 4.3 (2.8-5.7) mg/L. LD₅₀ for males and females combined reported to be 3.8 (2.9-4.4) mg/L.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

- (1) Dermal Sensitization Study: Bio/dynamics, Inc.; Project No. 6944-86; December 11, 1986; EPA MRID No. 401069-01.

PROCEDURE:

Using the close patch method, five male and five female guinea pigs received three (one per week) 0.3 ml applications of the undiluted test material during the induction phase. Two weeks after final induction phase application, a challenge dose was applied to the test group and naive control (five male and five female guinea pigs) group in a similar manner as the induction group. Observations were made for 24 and 48 hours after each application.

RESULTS:

No irritation was produced in the test group during induction or challenge phase. Slight irritation was reported in the naive control group in 1/10 animals. It was concluded that a sensitization reaction did not occur.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: Nonsensitizing.